

## **REMARKS / DISCUSSION OF ISSUES**

Claims 1-23 are pending in the application. Claims 1, 9, 11 and 12 are in independent form.

Unless indicated otherwise, claims are amended for non-statutory reasons: to correct one or more informalities, remove figure label number(s), and/or to replace European-style claim phraseology with American-style claim language.

### **I. Objection to the Drawings**

The Examiner objects to Figs. 1 and 4 for lacking certain reference numerals noted in the filed application. The replacement sheets filed herewith address the objections, excepting one. Notably, reference numeral '23' was in error in the specification and has been changed to '24' to properly reflect the element of the drawings to which it pertains.

Approval of the changes to Figs. 1 and 4, and withdrawal of all objections to the drawings is earnestly solicited.

### **II. Objections to the Specification**

The Examiner objects to the specification.

The Abstract has been replaced with an Abstract that overcomes the objections set forth in the Office Action.

The Examiner objects to terms on page 2 and page 6 of the application. With regard to the terms CD and DVD on page 2 of the filed application, Applicants respectfully submit that these terms are abbreviations for terms immediately preceding the respective abbreviation and thus are properly recited in the specification, and need no further definition as these are well known to one of ordinary skill in the art. With regard to the objections on page 6, Applicant submits that these are in error. Notably, page 6, line 11 includes no abbreviation, and page 6 line 29 does not exist.

Withdrawal of all objections to the specification is earnestly solicited.

### III. Objections to the Claims

Claims 10 and 22 were objected to for certain informalities. These claims have been amended to overcome the objections.

Withdrawal of all objections to the claims is earnestly solicited.

### IV. Rejection under 35 U.S.C. § 103

1. The Examiner rejects claims 1-5 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* (U.S. Patent 6,154,571) in view of *Fridrich, et al.* For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

2. The Examiner rejects claims 6-8 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* and *Kocher, et al.* (U.S. Patent 6,289,455) For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

3. The Examiner rejects claims 9-10 under 35 U.S.C. § 103 () as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

4. The Examiner rejects claims 11 and 13 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

5. The Examiner rejects claims 12, 14-16 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

6. The Examiner rejects claims 17-18 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* and *Kocher, et al.* For at least

the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

7. The Examiner rejects claims 19-20 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* and *Cox, et al.* (U.S. Patent 5,915,027). For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

8. The Examiner rejects claim 21 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* and *Cox, et al.* ('027). For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

9. The Examiner rejects claim 22 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* and *Cox, et al.* ('027). For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

10. The Examiner rejects claims 23 under 35 U.S.C. § 103 (a) as being unpatentable over *Cox, et al.* in view of *Fridrich, et al.* and *Cox, et al.* ('027). For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

A proper rejection under 35 U.S.C. § 103 (a) requires, inter alia, that all of the claimed elements be found in the applied art. If a single claimed element is not found in the applied art, a prima facie case of obviousness cannot be properly established. Furthermore, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is reason, suggestion or motivation to do so found in the references themselves or in the knowledge generally available to one of ordinary skill in the art. However, hindsight is never an appropriate motivation for combining references.

**Claims 1 and 9, 11, 12 and 13 and the claims that depend therefrom are patentable over Cox, et al. and Fridrich, et al.**

Claim 1, is drawn to a method and includes:

*"...applying watermarks  $WM_1...WM_k...WM_N$  to sections of  $1...k...N$  of digital content on a recording medium having an identification number (CDID);*

*combining numerical values representing the CDID, N and k in accordance with a concatenated hashing function to derive a numerical value for  $WM_i...$ "*

In an embodiment, a signal processor 20 responds to the digital media content of source 22 and a digital signal from source 24 indicative of an identification number (CDID) for CD 14 to derive watermarks that prevent a song or track that is recorded on CD 14 from being illicitly read from CD 14 and stored or recorded elsewhere. Processor 20 derives for each section of the track or record that is to be watermarked a multi-bit digital signal. The digital signal results from hashing a concatenated combination of binary bits representing the identification number (CDID), the number (i) of the particular section and the total number (N) of sections in the song or the record, i.e., CD 14. (Kindly refer to paragraph [29] of the application as amended.)

Thus, for each section of the recording medium, which is to have a watermark applied, the mark is derived and applied using digital content including a CDID, the number of the section and the total number of sections in keeping with a concatenated hashing function.

In rejecting claims 1, 9, 11 and 12, the Examiner relies on column 5, lines 60-67 and column 6, lines 1-5 of the reference to Cox, et al., asserting that the reference discloses a method of applying watermarks to sections  $1...k...N$  of digital content on a recording medium having a CDID. The Examiner also asserts that the reference discloses combining numerical values representing CDID, N and k. Applicants respectfully disagree.

The reference Cox, et al. as relied upon by the Examiner discloses the formation of an N-dimensional vector watermark on an image. The watermark is applied after use of a detection algorithm to determine if a watermark is already

present. If no watermark is contained on the image, a watermark is inserted by changing the value of certain coefficients slightly in order to make certain extracted values correlate to the N-dimensional vector watermark.

However, the reference does not disclose the sections (1...i...N) of digital content of a recording medium, application of watermarks to sections, the CDID, *combining numerical values representing the CDID, N and k in accordance with a concatenated hashing function to derive a numerical value for WM<sub>i</sub>*. To this end, without the sections of the digital content and the CDID reference, the reference to Cox, et al. **cannot** derive the numerical value as recited in claim 1.

For at least the reasons set forth above, it is respectfully submitted that the reference to Cox, et al. lacks at least one of the features of claim 1. As a result, a proper *prima facie* case of obviousness based on Cox, et al. has not been made and the rejection of claim 1 is improper and should be withdrawn. Therefore, claim 1 and the claims that depend therefrom are patentable over the applied art.

Claims 11 and 12 include similar features to those of claim 1 recited above. Thus, for at least the reasons set forth in connection with claim 1, it is respectfully submitted that the reference to Cox, et al. lacks at least one of the features of each of claims 11 and 12. As a result, a *proper prima facie* case of obviousness based on Cox, et al. has not been made and the rejections of claims 11 and 12 are improper and should be withdrawn. Therefore, claims 11 and 12, and the claims that depend therefrom are patentable over the applied art.

Claim 9 recites: *A recording medium assigned with a numerical ID number (CDID), the medium including digital content, at least some of the digital content having watermarked sections 1...i...N, the watermark in section i having a numerical value in accordance with a hashed concatenated function of CDID, N and i.*

Like the rejection of claim 1, the Examiner relies on column 5, lines 60-67 and column 6, lines 1-5 of the reference to Cox, et al. However, Cox, et al. disclose N-dimensional vector watermarks and does not disclose digital content having watermarked sections 1...k...N, or a CDID. Therefore it **cannot** have a hashed

concatenated function of these elements or any other combination of these elements.

For at least the reasons set forth above, it is respectfully submitted that the reference to *Cox, et al.* lacks at least one of the features of claim 9. As a result, a proper *prima facie* case of obviousness based on *Cox, et al.* has not been made and the rejection of claim 9 is improper and should be withdrawn. Therefore, claim 9 and the claims that depend therefrom are patentable over the applied art.

The Examiner relies on the reference to *Fridrich, et al.* in an attempt to cure the deficiencies of the reference to *Cox, et al.* As described above *Cox, et al.* lacks at least the features of independent claims 1, 9, 11-12. This notwithstanding, it is respectfully submitted that the rejection in view of reference to *Fridrich, et al.* is also improper for at least the following reasons.

In the rejection of claim 1, the Examiner asserts that *Fridrich, et al.* teach combining numerical values representing CDID, N and k in accordance with a concatenated hashing function. The Examiner relies on section 6 of the reference for support for this assertion. A review of section 6 reveals a method of generating a watermark using the hash. In particular N hash bits are used to synthesize a Gaussian sequence so that the pseudo random sequence gradually changes gradually changes with increased number of errors in the hash, yet sensitively depends on a secret key. Thus, the reference to *Fridrich, et al.* does not disclose the use of the CDID, nor the sections set forth in claims 1, 9, and 11-12 to derive and apply watermarks.

For at least the reasons set forth above, it is respectfully submitted that the reference to *Fridrich, et al.* lacks at least one of the features of independent claims 1, 9 and 11-13. As a result, a proper *prima facie* case of obviousness based on *Fridrich, et al.* has not been made and the rejections of claims 1, 9 and 11-12 are improper and should be withdrawn. Therefore, claims 1, 9 and 11-12 and the claims that depend therefrom are patentable over the applied art.

## V. Conclusion

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'William S. Francos', with a long horizontal line extending to the right.

William S. Francos, Esq.  
Reg. 38,456

July 1, 2005  
Volentine, Francos & Whitt, PLLC  
Treeview Corporate Center  
Two Meridian Boulevard  
Wyomissing, PA 19608

(610) 375-3513

## **2. Amendments to the Drawings**

Two sheets of drawings are attached including changes to Figs. 2 and 4. The first sheet, which includes Figs. 1 and 2, replaces the original sheet including Figs 1 and 2. The second sheet, which includes Fig. 3, replaces the original sheet including Fig. 4. Certain reference numerals recited in the filed application have been added.

Attachment: Replacement Sheets (2)